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Informed analysis is essential to ensuring economic prosperity in Kentucky. The *Annual Economic Report—1987*, published by the Center for Business and Economic Research (CBER) in the College of Business and Economics of the University of Kentucky, is the latest in a series of annual reports prepared to provide decision makers with current and accurate information about Kentucky's economy. This report highlights economic and financial trends in the U.S., the Southeast, and the state to help furnish insight into how Kentucky is faring in relation to the nation and the region. By supplying information about the state's economy, both past and present, the report provides a basis for analyzing where Kentucky may be headed in the future.

The publication of this report fulfills in part CBER's mandate to collect, maintain, analyze and disseminate Kentucky economic data. The opinions expressed here are, of course, those of the authors, and do not necessarily reflect the positions or opinions of the College of Business and Economics or the University of Kentucky. All data used in the report are the most current annual estimates available, and most are included in CBER's Kentucky Economic Information System. CBER also publishes a statistical abstract for Kentucky, which contains a more comprehensive compilation of social and economic data for the state and the nation. For more information about this statistical abstract, contact the Center for Business and Economic Research, 301 Mathews Building, University of Kentucky, 40506-0047.

H. Brinton Milward
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ECONOMIC OVERVIEW

by Charles F. Haywood*

The U.S. Economy

Between mid-1984 and late 1987, the U.S. economy experienced good, albeit slow, growth.

- Total civilian employment expanded at an annual rate of 2.4 percent.
- The unemployment ratio fell from 7.5 percent at mid-1984 to 6.0 percent in late 1987.
- The Gross National Product (GNP), in real terms (1982 dollars), increased at an average annual rate of 2.9 percent.
- The Federal Reserve Index of Industrial Production rose over the past three years at an annual rate averaging 2.5 percent.
- Output per hour of all persons employed in the non-farm business sector increased by about 1.0 percent per year.
- Compensation per hour of employment of such persons rose by an average of 3.9 percent per annum.
- Unit labor costs rose an average of 2.3 percent per year.
- The implicit price deflator for GNP also rose at an average pace of about 2.3 percent.
- The Consumer Price Index drifted upward by an average of 3.3 percent per annum over the past three years, reflecting improvements in quality and increases in import prices as well as the increase noted above for unit labor costs.

As the U.S. economy entered the last quarter of 1987, such trends were looking more and more like the perpetual motion machine that economists call "sustainable economic growth." The economic recovery and expansion that had begun late in 1982 was within a month or so of its fifth anniversary. Then on October 19, 1987, the bottom dropped out of the stock market. The depth of the fall was due mainly to the fact that speculative fever had pushed stock prices to highs not supported by such underlying factors as the level of interest rates and corporate earnings. But the basic weakness—making it inevitable that the stock market would sooner or later experience at least a modest, if not severe, decline—was the large and intractable deficit in the U.S. balance of trade.

Over the past several years, we, like many other economists, have expressed concern about our nation's foreign trade deficit. It was quite clear that if allowed to continue at annual levels of $100 billion to $150 billion, the deficit would soon put more dollars in the hands of foreigners than they would want to hold. Downward pressure would then be exerted on the international value of the dollar, confidence in the dollar would weaken, and that weakness would engender more weakness. This was the expected near-term scenario, and it is, in fact, now being played out in the money and capital markets around the world.

The long-term scenario is that as the dollar weakens, the "terms of trade" will become less and less favorable for U.S. residents. What this means, essentially, is that imports to the U.S. will become more and more expensive in terms of the real resources that U.S. residents will have to give up in order to pay for imports. Such resources include not only the amounts of factors of production (land, labor, capital and management) included in current production of goods and services, but also the resources embodied in plant, equipment, business organizations, and other real assets, or, in a word, in the wealth of U.S. residents. The longer-term prospects are, therefore, for significant constraint on growth in real consumption levels in the U.S. and for a shift of real wealth from U.S. households and businesses to foreign households and businesses. Such prospects are anything but pleasant and should, we think, cause grave concern among the makers of U.S. economic policy. As Robert Heilbroner recently observed: "Hard times will come, and indeed are already here, because the establishment of a strong but not hegemonic American economic role requires the most extraordinary exercise of political foresight and economic pragmatism." (*The New Yorker*, 9/14/87, p. 109)

The Kentucky Economy

Over the period mid-1984 to late 1987, the Kentucky economy has enjoyed expansion, but the gains have generally fallen short of those noted above for the U.S. economy.

- Nonagricultural employment in Kentucky increased at an average annual rate of 2.3 percent since mid-1984.
- The unemployment rate in Kentucky declined from 9.3 percent to 8.4 percent for the state as a whole, but with relatively large differences among counties.
- Aggregate personal income increased by 4.5 percent per annum on a current dollar basis and by about 2.5 percent on an inflation-adjusted basis.
- Though not quantified on an industry-wide basis, important improvements have been made in productivity in agriculture and in mining in Kentucky.
- The trend of compensation per hour in Kentucky seems to be about the same as observed nationally.
- There is no reason to believe that the trend of unit labor costs in Kentucky has been different than the national trend.
- The cost of living in Kentucky appears to be rising at a slightly slower pace than in the rest of the country.

Prior to the stock market crash in October 1987, the outlook for the Kentucky economy was for a continuation of the slow-growth pattern of recent years, with state gains not matching national gains on a relative basis. After the crash, most forecasts of the U.S. economy for 1988 were scaled down a bit. Forecasters who, like us, had been projecting real growth in GNP in 1988 at an average annual rate of 2.0 to 2.5 percent in 1988 pulled back to 1.5 to 2.0 percent. Also, the likelihood of a recession in 1988 moved up on the probability scale, perhaps to as much as 50 percent. With the ratio of retail inventories to retail sales higher than it has been for several years, the economy appears to be

vulnerable to an "inventory recession," which has been, of course, the main form of the recessions we have had since the end of World War II.

The likelihood of recession developing in Kentucky during 1988 is no greater than at the national level and may, in fact, be a bit less. Several considerations to be taken into account in thinking about 1988 in Kentucky are:

- In the past, a slowing in the pace of the national economy has usually been reflected in a slower pace of industrial expansion in Kentucky but often with a lag of several months or more. There may be enough industrial expansion "in the pipeline" in Kentucky, especially related to Toyota and the "satellite" plants, to keep the state from slipping into recession or, at least, to keep the state economy from declining as much as the national economy.
- Lower federal tax rates in 1988 may begin to have favorable effects sooner in Kentucky than in the nation as a whole, reflecting mainly (a) the direct way in which taxes are reduced on incomes at the lower end of the income scale, and (b) the relative importance of wages and salaries in Kentucky, on which underpayment of 1987 taxes is thought to be less than on other sources of income such as dividends, interest, rents, profits, and capital gains.
- The expiration of the United Mine Workers of America-Bituminous Coal Operators' Association (UMWA-BCOA) contract in the coal industry in early 1988 means that the Kentucky economy may be affected by developments unique to the state or shared by only a few other states in the Appalachian area. Whether the effects will be favorable or unfavorable remains, of course, to be seen, depending on the direction which negotiations between labor and management may take.

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PERSONAL INCOME

by Don M. Soule*

Total Personal Income (TPI), which includes wages, salaries and proprietors' income as well as investment income and transfer payments, is the broadest available measure of Kentucky's economic activity and a good indicator of the purchasing power of the state's residents. During 1986, TPI in Kentucky totaled $41.9 billion (Table 1), which is approximately $11,238 per person. The money value of TPI almost always increases from year to year, because of inflation and increased population and output per worker. Thus, comparison of Kentucky with the Southeast and the nation is necessary to determine whether the growth of Kentucky's TPI represents *relative* improvement in the state's economy. These growth trends are presented in Figure 1. To adjust for inflation, values are shown in dollars of constant purchasing power relative to 1982.

TPI growth in the twelve southeastern states as a group improved relative to the nation in nearly every year from 1970 to 1986 with growth rates even accelerating from 1981 to 1986. Kentucky shared in this greater-than-national growth only until about 1979, after which time TPI growth in the state has lagged behind that of the nation.

Table 1
Total Personal Income in Kentucky
1986
(millions of dollars)

Personal Income	$41,902
Components of Personal Income	
Wages and Salaries	23,196
Other Labor Income	2,433
Farm Proprietors' Income	633
Nonfarm Proprietors' Income	3,509
Personal Adjustment for Social Insurance	– 1,663
Residence Adjustment	7
Dividends, Interest and Rent	6,353
Transfer Payments	7,434

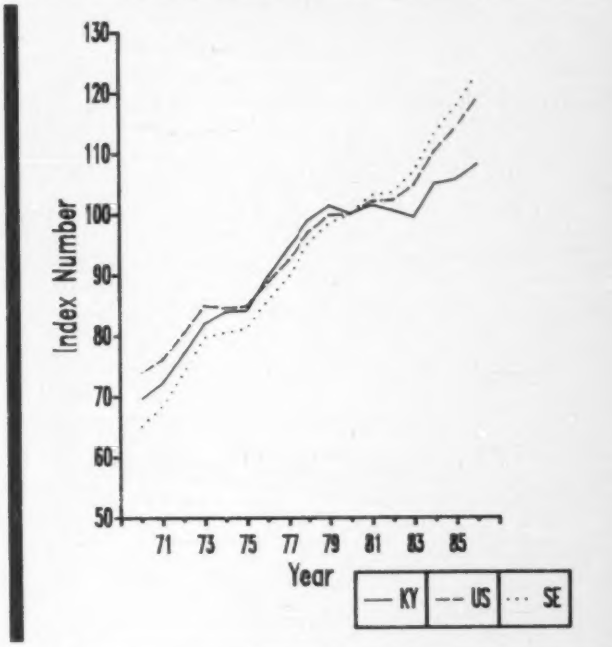
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Per Capita Personal Income

To adjust for differences in population among states, per-capita personal income (PCPI) is computed, further revealing the depressed income situation in Kentucky. In 1986, PCPI in Kentucky was $11,238, relative to $12,694 for the Southeast, and $14,641 for the nation.

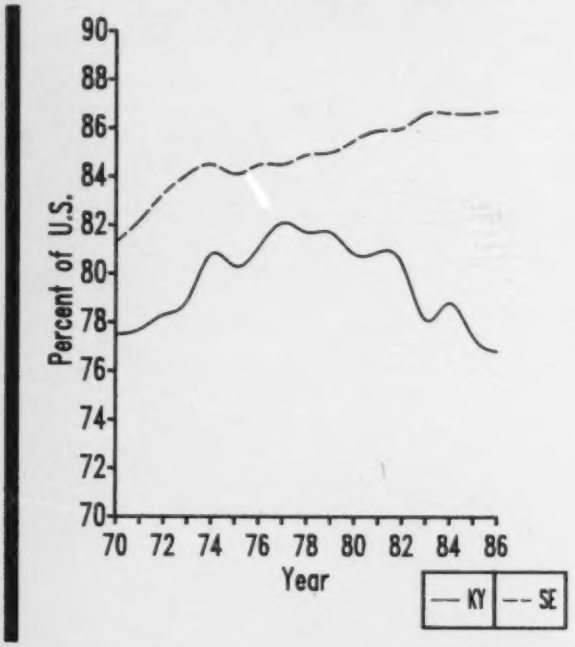
In Figure 2, PCPI for Kentucky and the Southeast are expressed as percentages of the national average, revealing lower income levels in the state and the region relative to the nation for all years from 1970 to 1986. Although PCPI in Kentucky increased from 77.5 percent of the national average in 1970 to 82.1 percent in 1977, it dropped in 1978 and 1979, again in 1980 and 1982, and reached a low of 76.5 percent of the national average in 1986.

Figure 1
Growth in Total Personal Income
in Constant 1982 Dollars
(Index Numbers: 1980 = 100)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Figure 2
Per Capita Personal Income
(Percent of U.S. Average)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

In contrast with Kentucky's poor performance in PCPI, performance in the Southeast as a whole improved in most years between 1970 and 1986, with only slight declines in 1975 and 1977. PCPI in the Southeast was 81.3 percent of the national average in 1970, and increased to 86.7 percent by 1986. This 5.4 percentage point increase differs dramatically from Kentucky's relative decline of 0.8 percentage points over the same period.

Employment Opportunities

An underlying cause of Kentucky's poor performance in personal income growth in the 1980s has been unfavorable employment opportunities. Scarcity of employment opportunities has been accompanied by migration of population to other states. In addition, Kentucky is characterized by low levels of employment and slow employment growth in high-wage industries such as manufacturing, construction, and mining, and high levels of employment and high employment growth in low-wage industries such as trade and services. Employment changes in a high-wage industry have a much larger effect on total income than do employment changes in a low-wage industry. Thus, the general scarcity of employment opportunities and the unfortunate patterns of employment concentration and growth among high- and low-wage industries are reflected in the personal income statistics.

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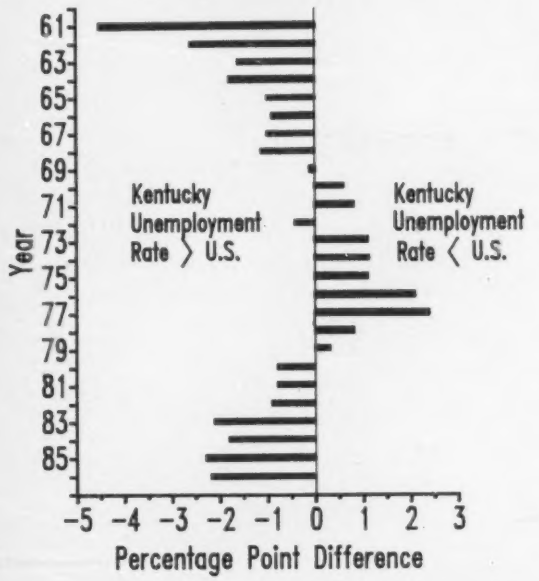
POPULATION AND LABOR FORCE

by Don M. Soule*

The Unemployment Rate

A standard measure of overall economic performance is the *unemployment rate*, the number of persons unemployed as a percent of the civilian labor force.[1] To evaluate Kentucky's economy relative to the nation, the differences over time between the unemployment rates for Kentucky and the U.S. are displayed in Figure 1.

Figure 1
Civilian Unemployment Rates
(Percentage Point Difference between Kentucky and the U.S.)



Source: Kentucky Cabinet for Human Resources, and the U.S. Department of Labor, Bureau of Labor Statistics.

From 1961 to 1977, Kentucky's unemployment rate declined relative to the nation, a striking picture of improved employment opportunities. Unfortunately, after 1977 Kentucky's unemployment rate began increasing, and became larger than the national rate in the 1980s. In 1986, Kentucky's unemployment rate was 9.2 percent versus 7.0 percent in the U.S.

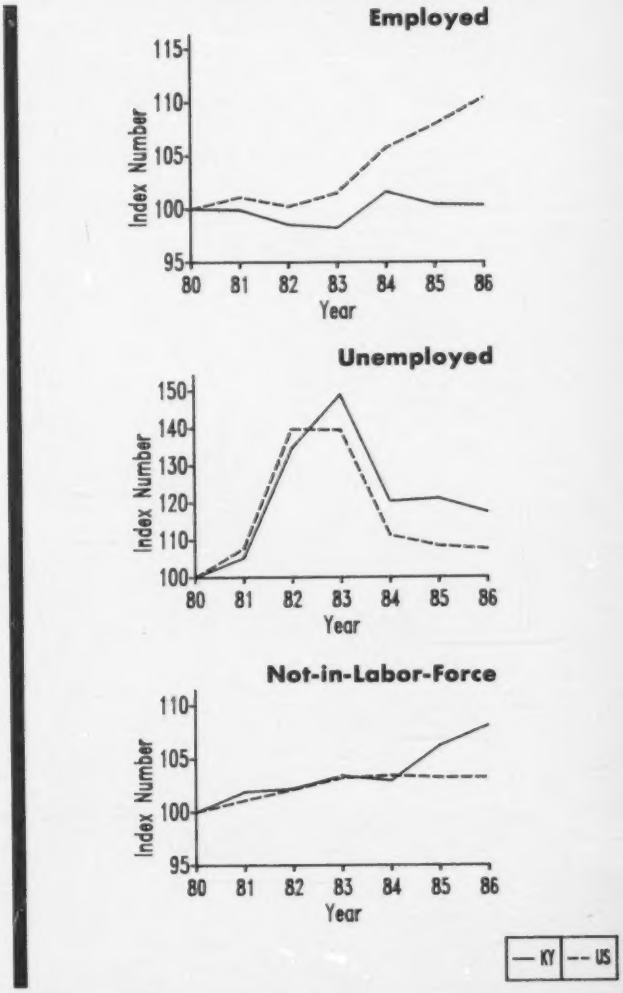
Trends—Kentucky and the Nation

What explanation can be offered for Kentucky's relative decline in employment opportunities? A trend is for employment to shift away from goods-producing industries (mining, construction, manufacturing and agriculture) and toward the services-producing industries (transportation, trade, finance, services, and government). This has occurred both nationally and in Kentucky, but Kentucky has not experienced comparable growth in its services-producing industries, and declines in goods-producing industry employment have been greater than in the nation. More specifically, Kentucky's mining employment has declined largely due to reduced production and because of efficiencies that require less labor per ton of coal. Reduced production of motor vehicles has affected employment in motor vehicle assembly and in the many Kentucky manufacturing businesses that supply motor vehicle parts. The construction industry's employment decline is a reflection of the state's sluggishness in overall business activity and lags in personal income growth.

Labor Force Groups

Because of Kentucky's unfavorable situation regarding employment opportunities in recent years, it is important to examine additional labor force dimensions. The civilian labor force population[2] is divided into two groups: persons who

Figure 2
Changes in the Civilian Labor Force Population
(Index Numbers: 1980 = 100)



Source: Kentucky Cabinet for Human Resources, U.S. Department of Commerce, Bureau of the Census, and U.S. Department of Labor, Bureau of Labor Statistics.

are working (the *employed*), and persons not working. The non-working group is further divided into those *unemployed* (not working, but looking for work) and those *not-in-labor-force* (neither working nor looking for work).

Figure 2 presents growth trends in the number of persons in each of these three groups. Both Kentucky and the nation experienced slow growth or actual decline in the number employed in the early 1980s. Employment growth increased after 1982, but was much less in Kentucky than in the nation. For the entire period 1980 to 1986, Kentucky's economic performance in terms of employment growth has been inferior to that of the nation.

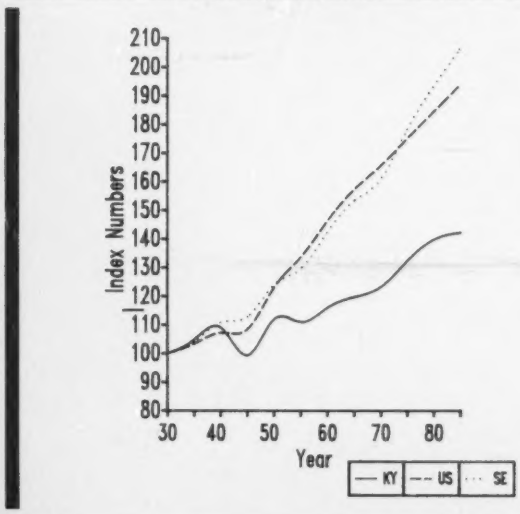
Because of the possible movement of persons between the unemployed and the not-in-labor-force groups (as when a long-term unemployed person becomes discouraged and no longer seeks employment), the unemployment rate may remain unchanged or even decline while the total number employed does not increase. Consequently, a declining unemployment rate does not necessarily indicate improvement in the economy, and statistical comparisons based only on unemployment rates can misrepresent a state's employment opportunities. A better method is to compare annual changes in the actual number of persons in each of the three labor force groups.

As shown in Figure 2, Kentucky and the U.S. experienced a dramatic decline in the number of unemployed persons between 1983 and 1986. However, Kentucky's decline was less than the nation's and was not accompanied by a comparable increase in employment. Rather, Kentucky's not-in-labor-force group grew in size, a possible indication that many of the unemployed left the labor force and simply ceased looking for work. Insofar as growth in this not-in-labor-force group was involuntary, the picture is one of deteriorating employment opportunities in Kentucky in the 1980s. This deterioration has continued despite the national recovery in employment beginning in 1983.

Population Migration

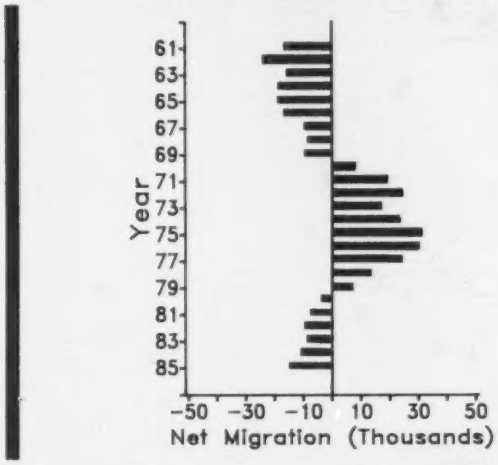
Much the same picture is shown in population migration statistics. Kentucky's total population has continued to increase over the years to a total of 3,729,000 in 1986; however, Kentucky's rate of population growth in recent decades has lagged behind the national rate (see Figure 3). While differences among states in births relative to deaths have some influence on population growth, another very important influence is migration among the states. Positive net migration into Kentucky occurs when more people move into than leave the state and suggests a favorable situation regarding employment opportunities. On the other hand, negative net migration is an unfavorable employment sign. As shown in Figure 4, Kentucky experienced improved migration through approximately 1976. Thereafter, the number of persons moving in declined relative to the number moving out; negative net migration began in 1980. Especially noteworthy are the similar trends in the unemployment rate and the net migration data. Declining unemployment rates were accompanied by increasing positive net migration up to the late 1970s, at which time there was a shift to higher unemployment and negative net migration.

Figure 3
Growth in Population
(Index Numbers: 1930 = 100)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Figure 4
Net Population Migration in Kentucky
(Calculated as a 3-Year Moving Average)



Source: Calculated from data from the U.S. Department of Commerce, Bureau of the Census, and the Kentucky Cabinet for Human Resources.

[1]The civilian labor force is the number of persons employed plus those unemployed.
[2]The civilian labor force population is the total population less persons in institutions (such as prisons), persons below age 16, and members of the armed forces. It includes all civilians who might possibly seek employment.

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A major economic transition has occurred in the U.S. during the 1970s and 1980s, the fundamental shift in the nation's structural employment profile from an industrial-based to an information/service-based economy. This shift, which is typically discussed in terms of movement from the "goods-producing" industries (manufacturing, mining, construction, and agriculture) to the "services-producing" industries (transportation, trade, services, finance, and government), is the result of a number of factors. A variety of technological advancements, such as automated production techniques, have led to decreasing labor requirements in the goods-producing industries. Consumer tastes have changed, resulting in a consumption bias for service outputs versus goods. And finally, the internationalization of the world economy has increased competition globally, eroding the technological advantage previously enjoyed by the U.S. in the manufacturing industry. The impact of these trends on Kentucky's economy and the extent to which they affect the economic well-being of the Commonwealth are discussed in the following two sections in terms of the services-producing versus goods-producing industries.

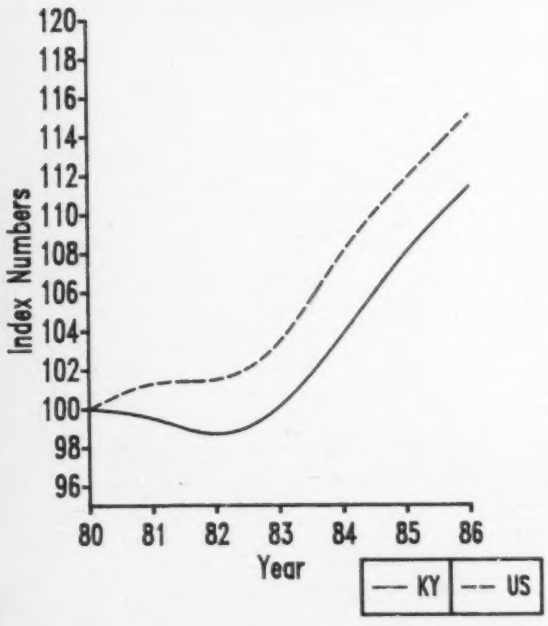
SERVICES-PRODUCING INDUSTRIES

by Don M. Soule*

Shift to Services

Mirroring the national trends, between 1980 and 1986 the number of wage and salary workers in the services-producing sector in Kentucky grew by 11.4 percent to a total of 936,834 workers (Figure 1). In contrast, employment in the goods-producing sector (excluding farm) *declined* by 9.3 percent, while total nonagricultural wage and salary employment increased by only 4.8 percent (see Figure 2). While growth in employment in the services-producing sector in Kentucky is significant, it was still less than in the nation by about 3.7 percentage points.

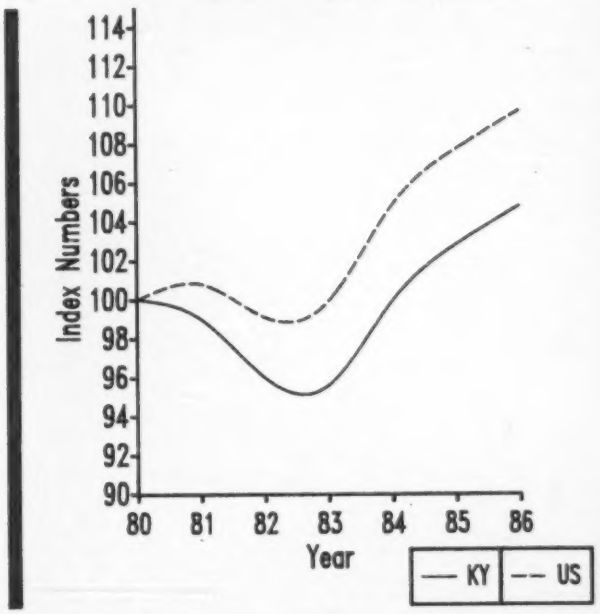
Figure 1
Employment Growth
Services-Producing Industries
(Index Numbers: 1980 = 100)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

Figure 2
Total Employment Growth
(Index Numbers: 1980 = 100)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

In 1986, the services-producing industries comprised 72.6 percent of total nonagricultural wage and salary employment in the state, making this sector about 2.5 times the size of the goods-producing sector. Kentucky's fastest employment growth, therefore, was in its largest sector. On the other hand, average annual earnings in this sector were

only $15,009, compared with $22,820 in the goods-producing sector (see Appendix Table 1). Because of these earnings differentials, the shift toward a service-based economy may portend a decline in total income growth unless sufficiently more new service jobs are created to offset the number of goods-producing jobs lost or unless growth occurs in the higher wage services-producing industries. In 1986, a gain of approximately 152 jobs in the services-producing sector, on average, would be needed to offset the earnings loss from a decline of only 100 jobs in the goods-producing sector. Because declines in Kentucky's goods-producing sector were larger than in the nation and growth in its services-producing sector was less impressive, growth in total personal income in the state has lagged behind that in the nation.

Five Industry Groups

Figure 3 shows the relative importance of the five services-producing industry groups. Trade, services, and government are the three largest industries, totaling 62.4 percent of the state's total employment. However, two of these industry groups—trade and services—are well below average in wage levels, and government is about average. Despite the large number of persons working in these three industry groups, lower wages mean that jobs in these industries contribute less to total earnings in the state than would be the case if the jobs were higher paying. Although accounting for almost three-fourths of total employment in the state, these industries accounted for only 50.8 percent of total earnings.

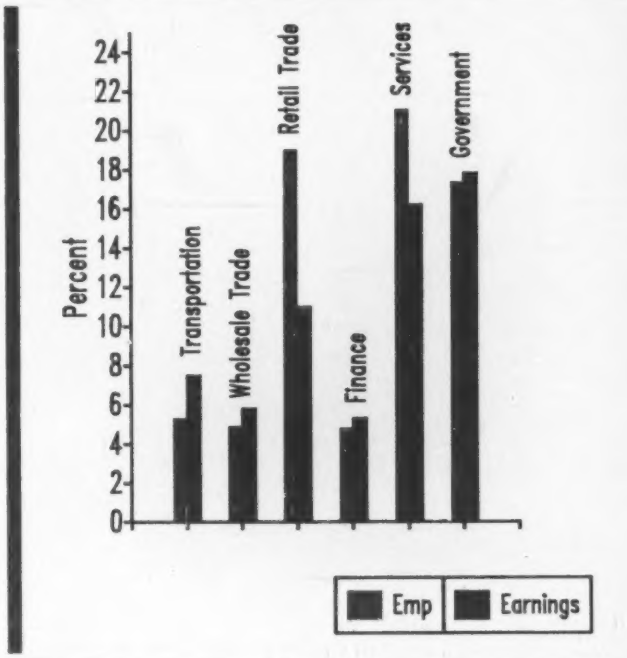
Employment growth between 1980 and 1986 differed among the five industry groups within this sector. Largest growth occurred in the trade and services industries. As previously noted, these industries are largest in employment, but are lowest in average earnings, with trade at 70 percent of average earnings in the state (see Appendix Table 1) and services at 77 percent. In contrast, above-average earnings are received in the transportation industry (141 percent of the state average), but since 1980 employment has declined by 1.1 percentage points. Furthermore, this industry is relatively small in size with only 5.3 percent of the state's total nonagricultural wage and salary employment in 1986.

Low Wage Industries, Higher Growth

Persons in the finance industry receive above average earnings (111 percent of the state average) and this industry has experienced impressive growth in employment since 1980 (14.1 percent). However, in 1986 it accounted for only 4.8 percent of the state's nonagricultural wage and salary employment. For the entire services-producing sector, therefore, highest growth in employment was experienced by the largest industries, but these industries also have below average earnings for wage and salary workers.

Although many of the services-producing industries are plagued by low average earnings levels, there are both high- and low-paid workers in the services industries. For example, services performed in a hospital may vary from those of a physician to those of a nurse's aid, and university employees range from highly paid scientists to lowly paid clerical workers. Promotion of employment growth in the higher paying industries would do much to raise Kentucky's level of personal income, not only in dollar amount but also as a percent of the national average. However, businesses have much freedom in selecting states in which to locate, and the extent to which policy makers can influence industrial location decisions is subject to much debate.

Figure 3
Employment and Earnings in Kentucky
Services-Producing Industries
1986
(As a Percent of Total)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

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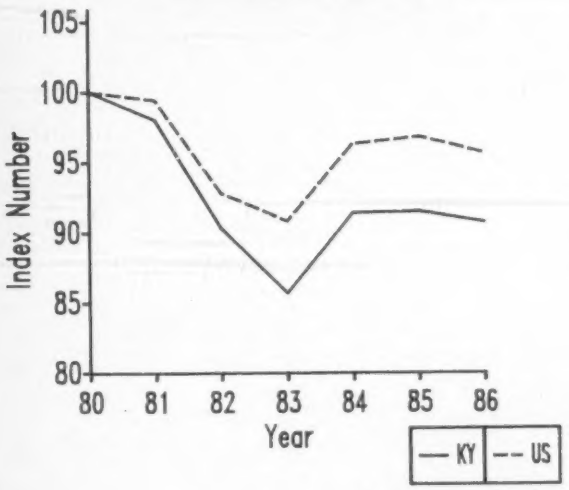
GOODS-PRODUCING INDUSTRIES

by Don M. Soule*

As noted previously in this *Annual Report*, there has been a relative shift from the goods- to the services-producing sector at the national level. And although this same trend appears in Kentucky, declines in the state's goods-producing sector have been greater and increases in the services-producing sector have been smaller than in the nation. Figure 1 shows that goods-producing employment declined for both Kentucky and the nation between 1980 and 1983. Although increases occurred after 1983, total goods-producing employment in 1986 was still less than in 1980, with steeper declines in Kentucky (9.3 percent) than in the nation (4.4 percent).

Figure 1
Employment Growth
Goods-Producing Industries
(Index Numbers: 1980 = 100)



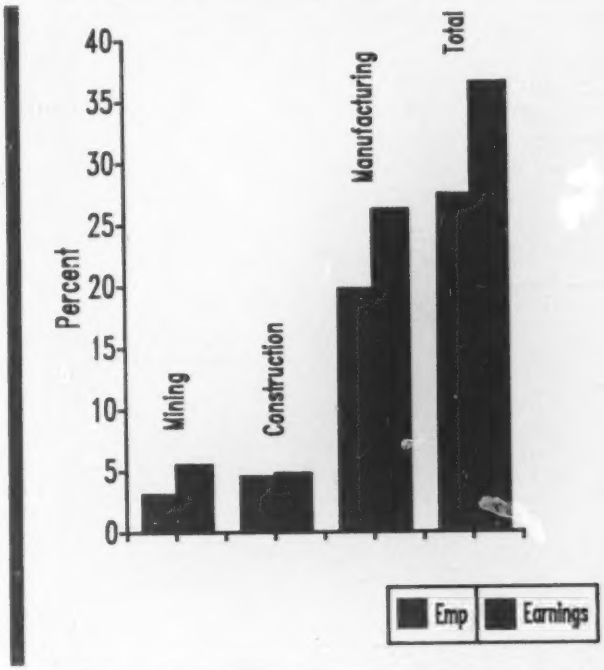
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

Slow employment growth in the goods-producing sector has a significant impact on total personal income because of the high wages associated with this sector. Figure 2 compares employment and earnings for the three nonagricultural goods-producing industry groups—mining, construction, and manufacturing. Wage and salary workers in these industry groups, particularly in mining, receive above-average earnings, and therefore the goods-producing industries overall contribute more to total earnings in the state than to total employment. In 1986, 353,477 wage and salary workers were employed in Kentucky's goods-producing industries, accounting for 27.4 percent of total employment in the state and 36.5 percent of total earnings.

Increases in services-producing employment in Kentucky have not made up for earnings declines suffered in recent years in the goods-producing industries, partly because of the wage level differences. As a result, growth in total personal income in Kentucky has not kept pace with the nation. Although some manufacturing industries have fared well at the national level in recent years (electrical equipment/supplies, for example), many of these industries are less important in Kentucky than in the nation. Instead, Kentucky's economy is dominated by certain depressed industries—coal mining and tobacco farming, for example—a situation which contributes in large part to the slow growth in income in the state. Coal mining, construction, and agriculture are discussed in more detail below.

Figure 2
Employment and Earnings in Kentucky
Goods-Producing Industries—1986
(As a Percent of Total)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

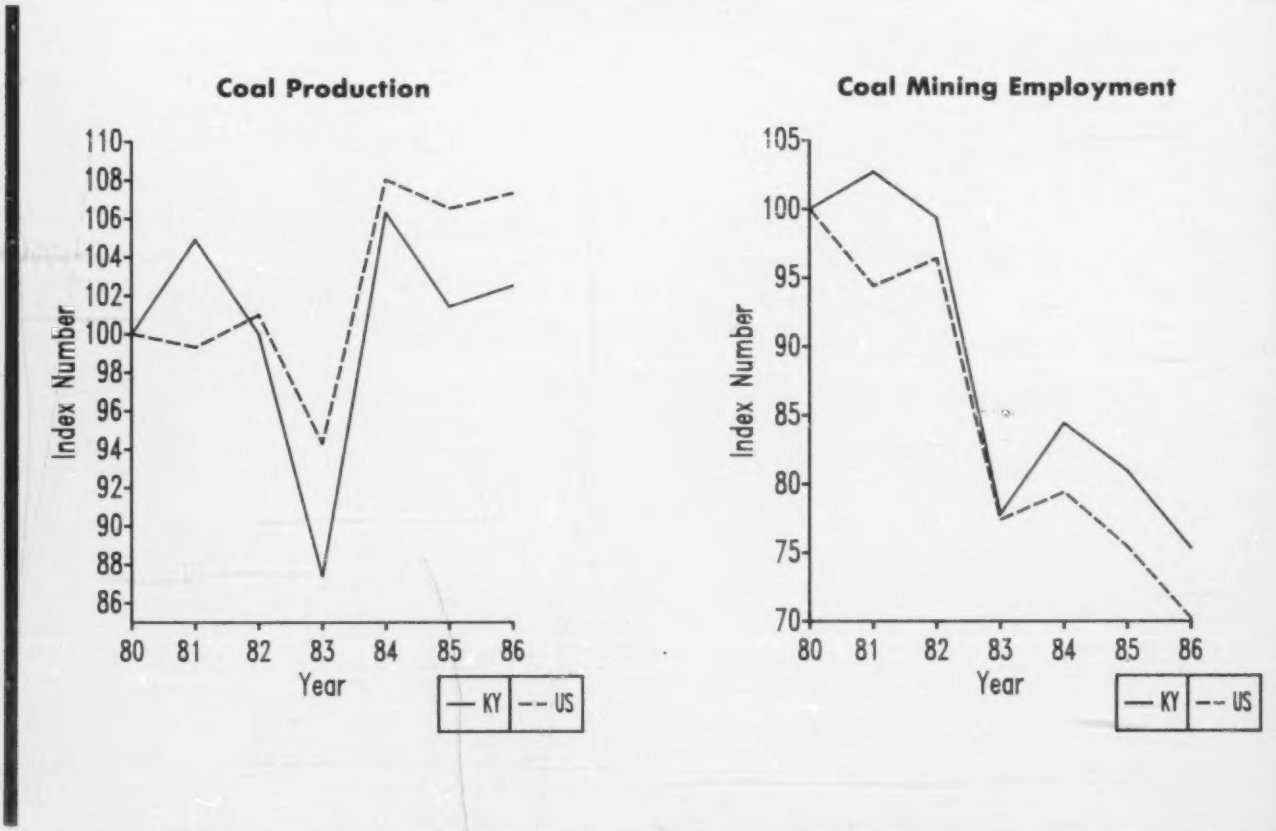
Note: Data are for nonagricultural wage and salary workers.

Coal Mining. In 1986, the coal mining industry employed 35,660 wage and salary workers in Kentucky, 24.7 percent less than in 1980. Employment declines in the coal mining industry (as shown in Figure 3) reflect dramatic increases in mining productivity combined with small and uneven increases in coal production. In 1986, coal production in Kentucky was 2.5 percent higher than in 1980, with virtually all this increase occurring in eastern Kentucky. Because of environmental considerations, the high sulfur content of coal from western Kentucky coalfields limits its marketability. Nationally, coal production was 7.3 percent higher in 1986 than in 1980, with production in western states accounting for most of this modest increase.

As noted, coal production is increasing, albeit marginally, yet coal mining employment is declining both nationally and in Kentucky. This is the result of improved mining production techniques which have limited the requirements for manpower. In the U.S., coal mining productivity increased from 1.20 tons per miner hour in 1980 to 2.74 tons per miner hour in 1985, an increase of 128 percent. In Kentucky coal mining, there was a 58 percent productivity increase, from 1.41 to 2.23 tons per miner hour. Productivity increases were higher in the nation than in Kentucky because of the increased importance of surface-type mining activity in western states, such as Wyoming, where productivity in 1985 was over 15 tons per miner hour.

The increase in highly productive mining in the western U.S. increases competition for coal markets, which tends to limit opportunities for increased coal production in Kentucky. Increased productivity in the industry limits the potential for future employment increases even if production were to increase substantially.

Figure 3
Coal Production and Coal Mining Employment
(Index Numbers: 1980 = 100)



Source: U.S. Department of Energy, Energy Information Administration and U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Employment data are for nonagricultural wage and salary workers.

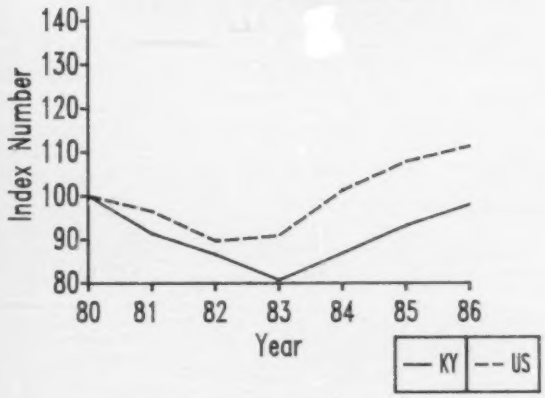
Construction. Rising interest rates from 1978 through 1982 were accompanied by dramatic declines in construction activity in both Kentucky and the nation. Although improvements are evident at the national level, Kentucky has not fully recovered from the slump in the early 1980s. Five measures of construction activity are shown in Figure 4. The first measure, Series A, employment in the construction industry in Kentucky, was less in 1986 than in 1980 whereas the U.S. experienced employment gain. Series B, wage and salary earnings in contract construction (which show exaggerated growth due to inflation), increased by only 9.3 percent between 1980 and 1986 in Kentucky, while earnings in the nation increased by 41.3 percent.

The three other series are based on the value on construction contracts awarded, which also show exaggerated growth due to inflation. Series C, the broadest of the three, includes both buildings (residential and business) and non-buildings (highways, bridges, and dams). Series D includes only buildings, but both residential and business, while Series E includes only residential buildings. Of major interest is the slower rate of growth for Kentucky than the nation.

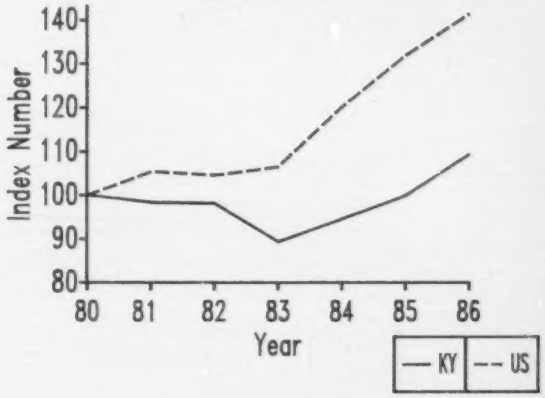
Although construction activity can be both a "cause" and an "effect" of a slow economy, the poor showing in Kentucky's construction industry is likely due to slow growth in personal income and population. Demand for business construction is derived from economic activity, and household construction is a function of household income and population. In Kentucky, growth in business investment, household income, and population have lagged the nation.

Figure 4
Construction Activity
Changes in Employment, Earnings,and
Value of Construction Contracts

Series A—Construction Wage and Salary Employment

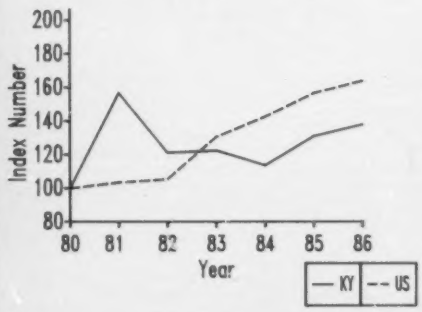


Series B—Wage and Salary Earnings in Contract Construction

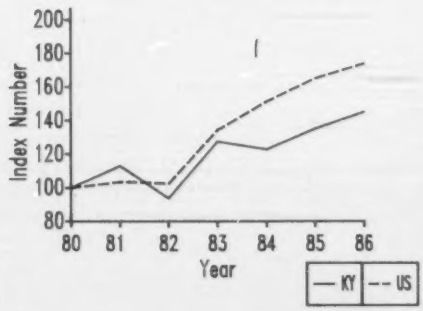


Value of Construction Contracts

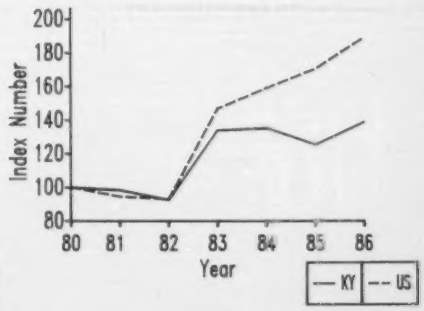
Series C—Buildings and Non-buildings



Series D—Buildings



Series E—Residential Buildings



Source: F. W. Dodge Corp., Division of McGraw Hill, Inc., and U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

Agriculture. Kentucky is above the national average in the percentage of total employment and total personal income that is derived from agriculture. As of 1986, Kentucky was 2nd among the states in production of tobacco, 1st in burley tobacco, 12th in corn, and 15th in soybeans. In livestock, Kentucky ranked 12th in production of cattle, 15th in hogs, and 32nd in chickens.

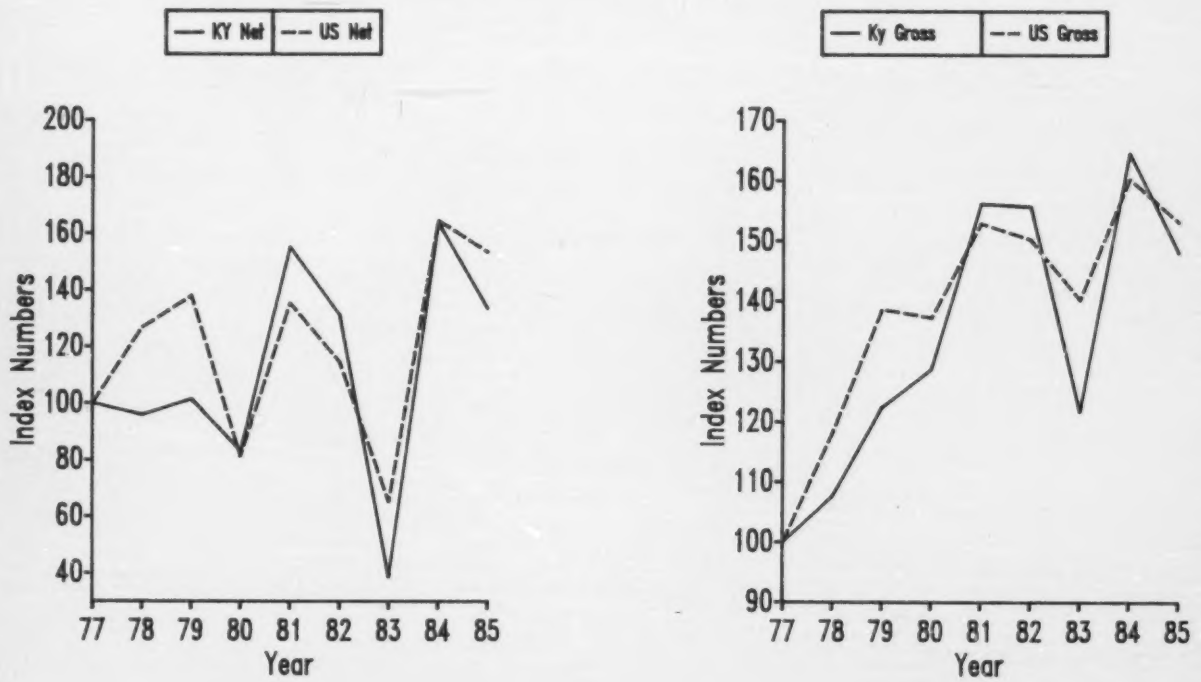
The economic health of agriculture as a goods-producing industry cannot adequately be evaluated from employment data. Most farm labor is provided by farm proprietors and family members who do not suffer unemployment when the farm economy declines but who do suffer reduced income. Therefore, more suitable data are measures of gross and net farm income and the relationship between prices paid and prices received by farmers.

A widely used indicator of conditions in the agricultural economy is the spread between the index of prices paid and prices received by farmers. Between 1977 and 1985, the national index of prices paid increased by 63.1 percent while the index of prices received increased by only 28.2 percent, suggesting a generally worsening situation since 1977.

During the same period, realized net farm income increased in Kentucky by 33.3 percent, and 53.2 percent nationally. Gross farm income increased by 48 percent in Kentucky and 53.1 percent nationally (Figure 5). While net and gross farm income increased by approximately the same amount in the U.S., net farm income in Kentucky increased by about 15 percentage points less than gross farm income.

These comparisons suggest slightly less favorable agricultural conditions in Kentucky than in the nation, within the overall depressed conditions of agriculture generally. The highly valued dollar in recent years has had a depressing effect on agricultural exports. Additional export pressure has arisen from the increased agricultural effort of many Third World countries resulting in more competition for the U.S. and Kentucky farmer. However, the recent decline in the value of the dollar relative to other currencies should be a positive factor for agricultural exports in the future.

Figure 5
Growth in Net and Gross Farm Income
(Index Numbers: 1980 = 100)



Source: U.S. Department of Agriculture, Economic Research Service.

Don M. Soule is Professor of Economics, University of Kentucky.

GOVERNMENT FINANCE

by James R. Ramsey*

Introduction

The fiscal relationships which have historically evolved among federal, state and local governments have changed dramatically during the 1980s. Due to large federal deficits, programmatic responsibility for many governmental functions has been shifted from the federal government to state and local governments, yet the specific funding for such programs and general revenue support to state and local governments have been significantly reduced in recent years. This section of the *Annual Report* briefly summarizes the current fiscal status of the federal government, the fifty states as a group, and the Commonwealth of Kentucky.

Federal Government Perspective

The federal budget deficit for fiscal year 1987 (for the year ending September 30, 1987) is estimated to be $148 billion, a significant reduction from the prior year deficit of $220.7 billion. This reduction was accomplished through both a reduction in the growth rate of expenditures and an increase in revenues. Outlays have been estimated to be up only 2.0 percent over 1986, while revenues have been estimated to have increased by 10.2 percent. Revenue growth was largely a result of legislative changes contained in the Tax Reform Act of 1986, and to a lesser degree, continued economic growth.

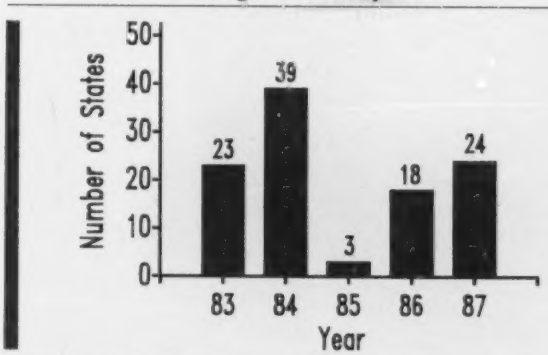
For fiscal year 1988, the Office for Management and Budget (OMB) has tentatively estimated the deficit to be $144 billion. Congress has recently enacted, and the President has reluctantly signed, revised Gramm-Rudman-Hollings legislation which mandates future budget cuts that will eliminate the federal deficit by 1993. Included in this deficit reduction plan is a $12 billion tax increase in 1988. Due to the political sensitivity of this course of action, some budget observers expect the federal deficit for 1988 to exceed the OMB estimate of $144 billion.

The Fifty-State Perspective

During fiscal year 1987 (for the year ending June 30, 1987), twenty-four states reduced expenditures from their original budgeted levels and thirty-three states raised taxes. The estimated ending General Fund balance for all of the fifty states during that year was $3.3 billion, or only 1.6 percent of total expenditures by state governments as a group. Approximately fifty percent of this balance was held by only three states. This small ending balance is significant since bond rating firms prefer that states maintain a five percent ending balance as a reserve for future cut back contingencies.

The significant number of states forced to cut expenditures and/or raise taxes last year was a function of: (1) continued slow economic growth; and (2) continued reductions in federal assistance to state and local governments in nearly all areas of federal financial assistance. Modest economic growth occurred at the national level; however, this growth was very uneven among the states. Those states that have large energy-related bases and large farm sectors (such as Kentucky) experienced revenue growth slower than the national average. The reduction in federal support to states resulting from the combination of the new federalism of the Reagan Era and the budget balancing efforts of Gramm-Rudman-Hollings also contributed to expenditure cuts at the state level. Therefore, even many of the states that did participate in the national economic recovery experienced budget reductions. Figure 1 shows the number of states required to reduce their budgets in midyear for each of the past five years. The two factors noted above have contributed primarily to the increase in the number of states forced to cut expenditures in 1987 from the number in 1985 and 1986.

Figure 1
Number of States Required to Reduce Their Budgets in Midyear



Source: National Association of State Budget Officers.

The major national issues which the states will face in the year ahead are: (1) the impact on state spending policies of continued reduced federal assistance in an effort to balance the federal budget; (2) the impact of the proposal made by the Joint Taxation Committee in Congress to impose on state and local governments gasoline and other highway excise taxes (while the Government Finance Officers Association [GFOA] opposes this proposal because of its financial burden and because it violates the doctrine of intergovernmental tax immunity, GFOA believes that this revenue option is likely to be enacted); (3) the impact of the extension of Medicare coverage to all state and local employees not currently covered; (4) the impact of higher inflation; and (5) the impact of forecast sluggish economic growth. Each of these factors will contribute to reduced state expenditure growth levels in the year ahead. For example, Data Resources, Inc. has estimated that combined state and local real spending growth will slow from [illegible] percent in 1986 and 3.2 percent in 1987, to only 1.4 percent in 1988.

Kentucky Perspective

On October 23, 1986, the Kentucky Revenue Cabinet revised downward the official General Fund receipt forecast for fiscal year 1987 by $88.5 million. Major shortfalls were anticipated in the sales and use tax, the individual income

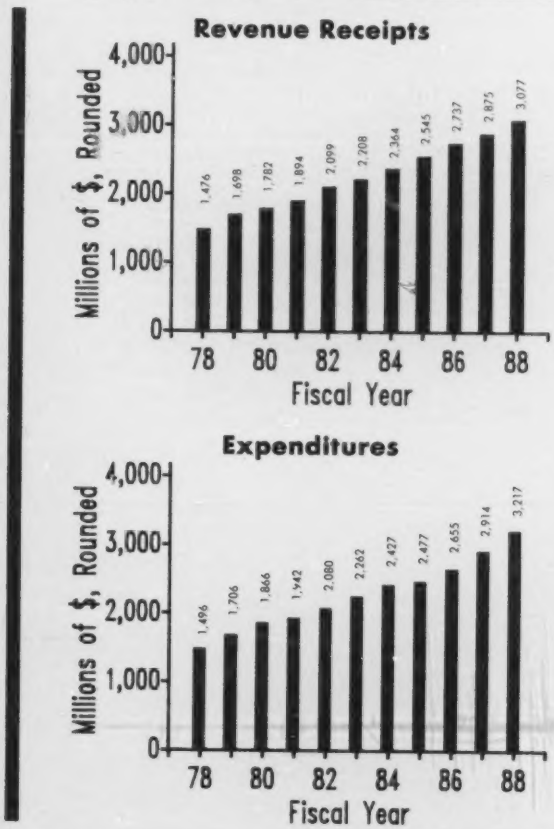
tax, and the coal severance tax. The reasons for the downward revision were: (1) a slower than anticipated growth in the state economy; (2) the rapid decline in oil prices and continued lack of competitiveness of the coal industry; and (3) fewer audit collections. In response to this revised revenue forecast, expenditure adjustments were made in January 1987. The Budget Reserve Trust Fund, a fund established by the Governor and General Assembly as a reserve to be used in the event of budget shortfalls, was reduced by $25 million and the largest absolute dollar reductions occurred in the following programmatic areas of spending: (1) Commerce ($13.5 million—mostly for debt service not needed due to the delayed issuance of bonds); (2) Higher Education ($11.8 million); and (3) Human Services ($9.1 million). On May 28, 1987, General Fund revenue estimates for fiscal year 1987 were reduced by an additional $31.9 million and corresponding expenditure reductions were made. The largest reductions were made in Human Services ($9 million) and the Budget Reserve Trust Fund ($4.2 million).

On May 28, 1987, the Kentucky Revenue Cabinet also revised downward its General Fund receipt forecast for the next year (fiscal year 1988) by $129.8 million. Again, the revision was primarily attributed to slower than expected growth in the sales and use tax, the individual income tax and the coal severance tax. The factor responsible for this slower than expected growth was the decline in the rate of inflation from 3.6 percent in 1985 to 1.9 percent in 1986. In response to the revised revenue forecast, expenditure adjustments were made in August 1987. Again, the Budget Reserve Trust Fund was reduced, now by $44.1 million. Agency transfers to the General Fund of $9.3 million were made and program expenditure levels were reduced. The programmatic areas most impacted by the cuts were: (1) Human Services ($22.3 million); and (2) Higher Education ($16 million).

Figure 2 summarizes General Fund revenue and expenditure growth for Kentucky for the last eleven years. Figure 3 indicates the ending General Fund balance for each year during this time period.

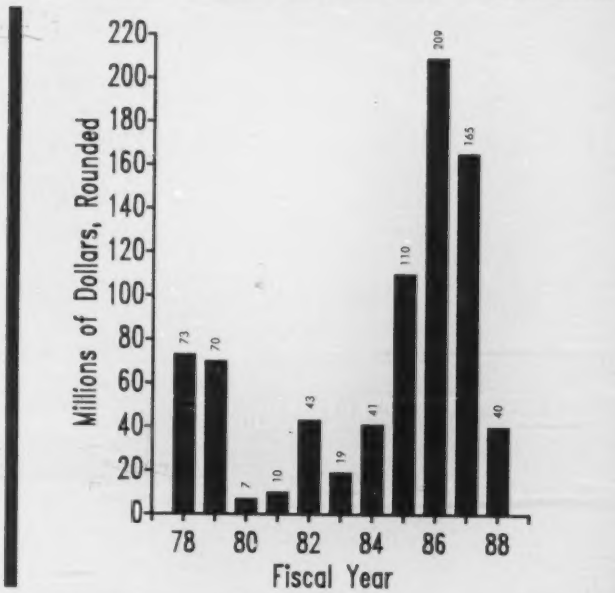
In the year ahead, Kentucky faces most of the same issues as other states. In particular, the following factors probably will result in continued budgetary problems in the state: (1) continued slow economic growth; (2) a modest growth or level demand for coal given the prospect of oil price stability or even price reductions; and (3) the failure of the state to bring its individual and corporate tax systems into compliance with the federal tax changes resulting from the Tax Reform of 1986.

Figure 2
General Fund Revenue Receipts and Expenditures, Kentucky



Source: *Kentucky Financial Report*, Finance and Administration Cabinet, Commonwealth of Kentucky.

Figure 3
General Fund Surplus, Kentucky



Source: *Kentucky Financial Report*, Finance and Administration Cabinet, Commonwealth of Kentucky.

Note: For fiscal year 1987 and 1988, figures include unspent portion of the Budget Reserve Trust Fund. 1978-1987, actual amounts; 1988, estimated amount.

*James R. Ramsey is Executive Director, Office for Investment and Debt Management, Finance and Administration Cabinet, Commonwealth of Kentucky.

BANKING AND FINANCIAL MARKETS

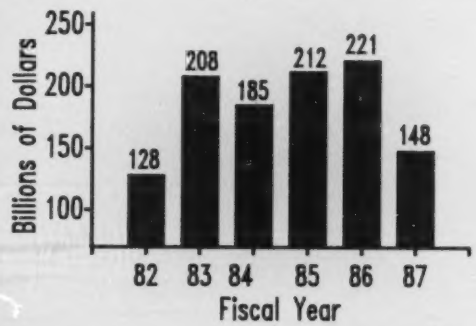
by Donald J. Mullineaux*

Macroeconomic Policy Developments

Over the better part of the 1980s, fiscal and monetary policies have operated at cross purposes. The financing of huge federal deficits (cumulating to almost $1 trillion over the past 5 years) placed an enormous government claim on financial markets and required substantial inflows of capital from abroad. In this environment, the Federal Reserve has faced the difficult task of supplying sufficient funds to keep the economy in its recovery phase, without rekindling inflation. A new element of uncertainty concerning monetary policy surfaced during 1987, as Paul Volcker resigned as Federal Reserve Board Chairman and Alan Greenspan was named as his successor. While most analysts expected Greenspan to pursue policies similar to Volcker's, there was some concern in financial circles that "the new Fed" would be more susceptible to political pressures to stimulate the economy and assist the Treasury in financing its borrowing.

Not all the news about deficits was bad, however. The Treasury's borrowing fell from $221 billion in fiscal year 1986 to roughly $150 billion in 1987 (Figure 1). In addition, the Congress managed in the late summer to pass a "rehabilitated" version of the Gramm-Rudman-Hollings bill which offered the promise of moving towards a position of

Figure 1
Federal Government Deficit

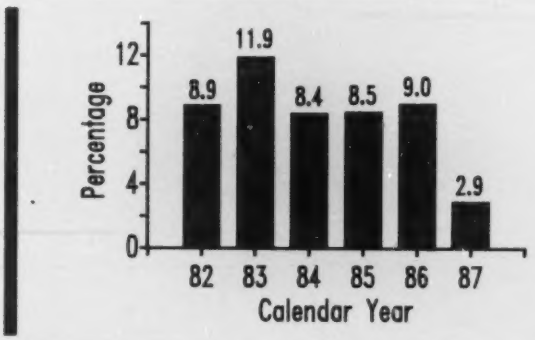


Source: Office of Management and Budget and U.S. Department of Commerce.

budget balance by the mid-1990s. Following the "stock market crash" of October 19, the Congress and the Administration negotiated a package of spending cuts and tax increases designed to reduce the deficit by $30 billion in fiscal year 1988 and $45 billion in 1989. Financial market participants were hopeful, yet skeptical, that substantial progress on reducing deficits might finally be at hand.

Money supply. Monetary policy developments were plagued by problems of interpreting the monetary statistics. The Fed continued to place no weight on the M1 measure of the money supply[1] on the grounds that the relationship between this measure of money and economic activity was highly unpredictable. The growth rates in the so-called broader money aggregates (M2 and M3)[2, 3] decelerated substantially over the first half of 1987 and at mid-year were below the bottom of the target ranges the Fed had established in February (Figure 2). The Fed decided against an effort to stimulate these monetary growth rates by reducing interest rates, however. In their view, lower interest rates involved a large risk of quickening the pace of inflation. The Fed was also concerned that lower rates would push the value of the dollar down still further than the 40 percent cumulative drop from early 1985. Indeed, the Fed's only

Figure 2
Rate of Growth in M2 Measure of the Money Supply



Source: Monetary Trends, Federal Reserve Bank of St. Louis.

significant moves on interest rates involved some tightening of the monetary policy levers in late April and early May, and again in September when the Fed increased its discount rate from 5.5 to 6.0 percent. Market interest rates trended upward over most of the year by some 1.5 to 2.5 percentage points. Following the stock market collapse, market participants shifted funds out of stocks and into bonds and short-term securities, and interest rates dropped by 1 to 1.5 percentage points. The Fed's willingness to provide liquidity to very nervous markets also helped push rates back down.

[1] **M1** consists primarily of currency, demand deposits, other checkable deposits (such as NOW accounts and credit union share draft accounts), and travelers checks held by the public.

[2] **M2** consists primarily of M1 plus savings deposits and small denomination time deposits, money market deposit account balances, overnight balances held as RPs (repurchase agreements) or Eurodollars, and money market mutual fund balances held by non-institutions.

[3] **M3** consists primarily of M2 plus large denomination time deposits, term RPs and term Eurodollars (those with maturity greater than one day), and money market mutual fund balances of institutions.

While lower rates produced increased optimism about the economic outlook, the dollar renewed its downward trek, sparking fears of higher inflation in 1988.

Trade-balance position. At its July meeting, the Fed announced its preliminary intention to reduce the 1988 target ranges for growth in the monetary measures M2 and M3 by one half of a percentage point relative to the 1987 ranges. The Fed emphasized that the U.S. economy was required to undergo an adjustment in its trade-balance position, and that such a transition required a minimum level of financial or inflationary pressures. In his last testimony before Congress, outgoing Chairman Volcker noted that failure to achieve the oft-stated goal of reducing budget deficits "could only damage confidence in our ability to deal with our economic problems and contribute to imbalances in financial markets and the economy." The stock market's wild gyrations in mid-October suggested that Mr. Volcker's conclusions contained more than a grain of truth.

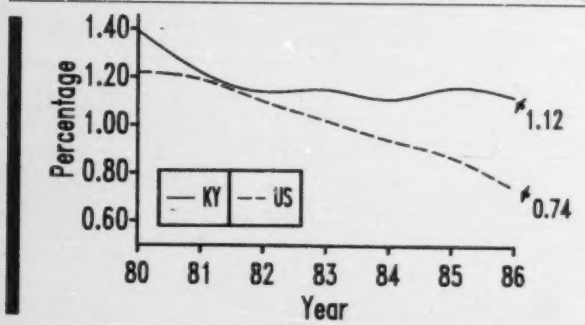
Banking Developments in Kentucky

The 1980s have brought "rough times" for the banking industry at the national level. A combination of interest rate-deregulation, competition from nonbank firms (such as Sears, American Express, Prudential, etc.) and problem loans in the energy, agricultural, and international sectors have produced declining profitability in the industry. These problems fell heaviest on small community banks, where profits have fallen by roughly 50 percent nationwide since the beginning of the decade.

Kentucky's banks have "weathered the financial storm" somewhat better than their national counterparts (Figure 3). The typical bank in the state has been considerably more profitable in recent years than the average U.S. bank. The most useful measure of profitability in banking is return on assets, which is measured as a bank's net income divided by its total assets. In 1986, the average Kentucky bank earned $1.12 on each $100 of assets. For the country as a whole, commercial banks earned 74 cents on each $100 of assets, suggesting that Kentucky banks were roughly 50 percent more profitable than their national counterparts. Another popular measure of profitability, return on equity, also confirmed the superior profitability of Kentucky banks. In 1986, net income divided by stockholder equity averaged 12.55 percent in Kentucky versus a national average of 9.80 percent.

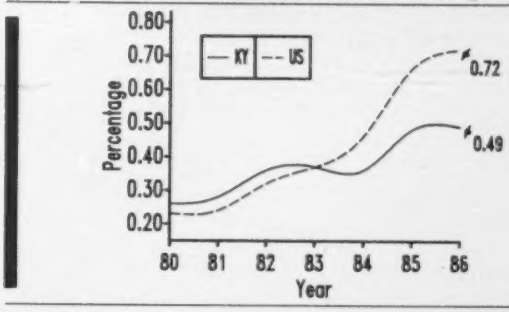
Superior profit performance. What accounts for the superior profit performance of Kentucky's banks? The primary factors are: (1) considerably fewer losses on loans, and (2) better control of noninterest expenses such as personnel, occupancy, and equipment costs. During 1986, the typical U.S. bank charged off 72 cents per $100 of assets in anticipation of future losses on loans, for example, whereas Kentucky banks charged only 49 cents per $100 of assets (Figure 4). Furthermore, Kentucky banks have been especially successful at controlling employee expenses in recent years. Personnel costs in Kentucky have been declining since 1983 whereas modest increases have occurred in the U.S. Personnel costs were $22,100 per employee in Kentucky in 1986 versus $27,400 at the average bank in the U.S. Kentucky banks also have a slight advantage over their national counterparts in terms of net interest revenue, which is the difference between interest revenue and interest expense. Kentucky banks earned 5 cents more per $100 of assets than the average U.S. bank in 1986 and paid 8 cents less per $100 on deposits and other funds raised.

Figure 3
Rate of Return on Assets, Commercial Banking



Source: Unpublished data, Federal Deposit Insurance Corporation.

Figure 4
Provision for Loan Loss, Insured Commercial Banking



Source: Unpublished data, Federal Deposit Insurance Corporation.

Multi-bank holding companies. Another issue of major interest in Kentucky financial circles concerns multi-bank holding companies. In 1984, Kentucky liberalized its laws concerning bank holding company acquisitions, including a provision which allowed acquisitions by out-of-state holding companies. Approximately 25 percent of all banks in Kentucky are now subsidiaries in bank holding companies, with the majority of acquisitions made by holding companies based in Louisville, Lexington, and Frankfort. More than ten acquisitions have been made, however, by out-of-state institutions, most located in Ohio. The most popular geographic areas for acquisitions are Northern Kentucky and the Bluegrass, which accounted for roughly half of the acquisition activity since 1985. The majority of acquisitions were cash deals, rather than for stock or a combination of stock and cash. Kentucky banks sold at a premium of 1.69 times their book value on average and 13 times their earnings. These premia are similar to those paid in Indiana, but somewhat below those which have prevailed in Illinois and Tennessee. Most analysts look toward additional acquisition activity over the next several years. Bank managers see several advantages to an acquisitions-based strategy, including an improved capacity to compete and opportunities to enhance productivity and cost effectiveness. Kentucky's current law prevents any bank holding company from controlling more than 15 percent of total state deposits, however, and several large holding companies are presently constrained from making additional acquisitions as a result.

Donald J. Mullineaux is Professor of Finance and Holder of the duPont Endowed Chair for Financial and Banking Services, University of Kentucky.

THE KENTUCKY ECONOMY IN PERSPECTIVE

by Merl M. Hackbart*

This year's Annual Report on the status of Kentucky's economy provides perspective on where we have been and where we might be going in the short and long term. Hopefully, that perspective is gained from a review of both long-term trends such as the shift from a manufacturing or goods-producing to a services-oriented economy, and of short-term economic fluctuations. These short-term fluctuations are caused, for example, by changing values of the dollar, adjustments to monetary policy, business investment decisions and eroding consumer confidence resulting from the "black Monday" of 1987. The longer-term tides of economic structural change are periodically disturbed by the waves of shorter-term economic fluctuations.

Kentucky's specific short-term response to external economic change varies as its economic structure changes over time. For example, as the Kentucky economy becomes more service oriented, it will become less volatile and less subject to international and national economic fluctuations. More specifically, manufacturing industries are often vitally affected by foreign competition, while fast food outlets and dry cleaning establishments are much less affected. Agriculture and mining are influenced by dollar value adjustments and Middle Eastern political unrest, while banking and medical service industries are more directly influenced by local economic conditions.

As a sub-unit of the nation, Kentucky and its economy are intimately related to the economic future of the U.S. Likewise, monetary and fiscal policy initiatives of the Federal Reserve and the Congress will help shape Kentucky's outlook but will not totally determine it. This is because Kentucky's economic structure tends to enhance and exaggerate the effects of some policy changes while mitigating against others.

The observations of this report on the Kentucky economy might be summarized into three groups. These are: (1) the *long-term* economic trends or economic tides which influence the Kentucky economy, (2) the *short-term* trends or economic waves (past, present, and future) which influence the short-term economic outlook for the state, and (3) the economic and financial issues which the state is facing.

The Long-Term Economic Tides

- Like the nation, Kentucky is becoming a more service-oriented economy. New jobs are being created most rapidly in the service industries due to changes in: (1) consumer preferences, (2) technological advances which reduce labor demands in goods-producing industries, (3) increased foreign competition which is resulting in a shift of goods production to emerging industrial nations, and (4) until recently, a highly valued dollar which gave price advantages to foreign competitors.
- The shift to services-producing industries will probably result in a less volatile economy with fewer rapid-growth or recessionary periods. This is because most services-producing industries are less prone to inventory-aided business cycles and are less influenced by external (outside their regions) economic trends.
- Like the nation, the shift to services-producing industries may portend slower growth in the economic well-being of Kentucky citizens. Traditionally, the higher wage industries have been the goods-producing industries such as manufacturing and mining. A shift to services-producing industries may lower the average income of the Kentucky worker unless rapid growth is experienced in the higher-wage service industries.
- Overall employment growth in Kentucky has been slower than in the nation. The combined effects of slower employment growth, structural change, and the more sensitive nature of the Kentucky business cycle have constrained Kentucky's ability to attain the economic expansion rates of the surrounding states in the last decade. The result has been that Kentucky has lost ground to other southern states and the nation in terms of per capita income and population growth.

Short-Term Trends

- The consensus of economic forecasters is that 1988 will bring slow but sustained real economic growth in the 1.5 to 2.0 percent range. An inflation rate of 3.0 to 3.5 percent is anticipated barring unusual international economic change or political crisis. This growth rate is weaker than in 1987 and principally assumes some consumer spending cuts, partly based on pessimism resulting from the stock market crash on the negative side and central bank economic growth support on the positive side. This scenario also suggests positive debt action by Congress but not an overreaction to the stock market fall, possibly in the range of a $30 billion reduction in the current year budget deficit.
- Kentucky's outlook should be similar with indications of slow, sustained growth at approximately the national rate of up to 2.0 percent. Price level adjustments are also expected to mirror the national rates of change.

Emerging Economic and Financial Issues

The changing economic conditions reviewed in this report foster a series of interrelated issues which state leaders and policy makers will have to cope with in the near future. How they are handled will undoubtedly affect Kentucky's future economic status. While trends affecting Kentucky may be

both short- and long-term, the separation of issues into short- and long-term groupings is less meaningful, since the issues result from the simultaneous impact of short- and long-term trends. Therefore, solutions to short-term issues should be viewed as initial installments on solutions to long-term policy problems. This view is taken in the following discussion of long- and short-term economic and financial issues facing the Commonwealth.

Long-term issues.

- Continued budget-balancing reductions in federal assistance to state and local governments are likely to have long-term repercussions for state spending policies. The primary policy question is whether Kentucky will attempt to maintain programs and services which have been funded, all or in part, by federal dollars. Until now, the state's policy principally has been not to restore those activities previously funded by the federal government. However, as federal cuts continue, there may be programs in areas like education, human services, infrastructure, technology and economic development, where the state may need to reconsider its position on program restoration and maintenance if long-term economic goals are to be achieved. Careful analysis will be required to assess the trade-offs involved.
- A major long-term economic development issue facing the state relates to the structural shift in the nation's employment profile from a goods- to a services-producing economy. A first concern is how to enhance our proportionate share of goods-producing industry employment. Moreover, a similar question involves how Kentucky can maintain its existing goods-producing industries given the susceptibility of industry to the recruiting efforts of other states. It will take careful planning to retain existing industry while attracting relocating firms. Investments in human capital, infrastructure and technology will be needed to enhance our competitiveness with other regions and foreign locations for a smaller number of goods-producing industry jobs.
- A second policy issue related to the structural employment shift involves the questions of how to retain and enhance our ability to attract to the state new service and trade firms. This issue is especially challenging given the fact that service and trade expansion favors metropolitan areas more than rural areas. Although in absolute numbers Kentucky has seen a shift to services-producing employment, this shift has been less dramatic than in the nation. This slower service-industry growth has resulted from Kentucky's rural nature. A related challenge involves the question of how we might optimize the structural shift so that higher-wage service jobs (finance and medical services, for example) are maximized.

Short-term issues.

- The short-term challenge to the state, given our prospects for slow, although relatively stable, economic growth for the upcoming biennium, is to make difficult choices about state spending priorities. The resource allocation decisions are further complicated as local governments seek increasing state support as a replacement for former federal funding of local government operating and capital programs.
- Decisions also will be faced regarding whether the state should enhance its revenue base given the long-term needs for public services and public investment. This policy issue is related to the 1981 Reagan tax cut. As a result of the reduction in federal taxes and federal programs, states and localities are in a better position to control their own financial and programmatic destiny. In other words, as a result of the federal government's "freeing up" tax capacity through federal tax cuts, state and local governments are in a position to make decisions regarding the need for public services and sources of funds to support them.
- The merger of short- and long-term policy issues is particularly exemplified by the education program area. The quality of our human resource base must increase to meet the needs of our changing economy. If we do not strive to attain national norms in educational quality, we will not be able to constructively adjust to the structural changes occurring in the national economy and our full economic development potential may not be realized. Therefore, Kentucky will continue to face the short-term issue of its educational agenda as it attempts to enhance its human capital inventory, permitting it to be competitive in the long run.

In essence, as noted, the short-term investment decisions the state makes will help determine our long-term economic destiny. To mitigate against the undesirable longer-term economic tides, we must effectively manage the short-term waves.

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Appendix Table 1
Average Annual Earnings in Kentucky
1986

	Dollars	% of State Average
All-Industry Average	$17,149	100%
Goods-Producing Industries	22,820	133
Mining	29,986	175
Construction	18,205	106
Manufacturing	22,746	133
Services-Producing Industries	15,009	88
Transportation	24,145	141
Trade	12,014	70
Wholesale Trade	20,275	118
Retail Trade	9,869	58
Finance	19,087	111
Services	13,170	77
Government	17,468	108

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: Data are for nonagricultural wage and salary workers.

Appendix Table 2
Selected Economic Indicators

	Kentucky			United States		
	1985	1986	Percent Change	1985	1986	Percent Change
Population (1000)	3,726	3,729	0.08	238,741	241,078	0.98
Civilian Labor Force (1000)						
Total	1,696	1,689	−0.41	115,464	117,841	2.06
Employed	1,535	1,533	−0.13	107,154	109,600	2.28
Agricultural	64	64	0.00	3,187	3,168	−0.60
Nonagricultural	1,471	1,467	−0.27	103,966	106,433	2.37
Unemployed	161	156	−3.11	8,310	8,241	−0.83
Civilian Unemployment Rate (%)	9.5	9.2	—	7.2	7.0	—
Nonagricultural Wage and Salary Employment (1000)						
Goods-Producing	357	353	−1.12	25,110	24,801	−1.23
Manufacturing	257	254	−1.17	19,372	19,056	−1.64
Services-Producing	981	1,008	2.75	78,885	81,166	2.89
Total	1,338	1,361	1.72	103,995	105,967	1.90
Manufacturing Earnings and Hours						
Average Weekly Earnings ($)	371.19	386.55	4.14	386.37	396.01	2.50
Average Weekly Hours	38.9	39.2	0.67	40.5	40.7	0.49
Personal Income						
Total (billions)						
Current $	40.118	41.902	4.45	3,320.10	3,529.52	6.31
Constant 1982 $	35.852	36.692	2.34	2,967.02	3,090.65	4.17
Per Capita						
Current $	10,759	11,238	4.45	13,907	14,641	5.28
Constant 1982 $	9,615	9,841	2.35	12,428	12,820	3.16
Consumer Price Index	—	—	—	322.19	328.38	1.92
Gross National Product (billions)						
Current $	—	—	—	4,010.3	4,235.0	5.60
Constant 1982 $	—	—	—	3,607.5	3,713.3	2.93

Source: U.S. Department of Commerce, Bureau of the Census and Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics; and Kentucky Cabinet for Human Resources.